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**(54) DISTRIBUTOR FOR A PRODUCT UNDER PRESSURE**

SPENDER FÜR EIN UNTER DRUCK STEHENDES PRODUKT

#### DISTRIBUTEUR POUR PRODUIT SOUS PRESSION

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(56) References cited:

**US-A- 3 235 137**      **US-A- 3 245 435**

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## Description

The invention relates to a distributor for a product under pressure, containing a recipient and a valve mounted thereupon with a springy, press-on valve shaft which is connected to the inside of the recipient by means of a passage, which can be closed off by means of a valve part, whereby this passage is closed off by means of the valve part when the valve shaft is in rest position, but whereby it is open when the valve shaft is pressed on, and whereby a flexible bag is provided in the recipient, the inside of the bag connecting to the end of the valve shaft situated in the recipient, whereas the above-mentioned sealable passage via which the valve shaft is connected to the inside of the recipient, is situated outside said bag.

A distributor of this kind is disclosed in US-A-3.610.481. This distributor is intended for the simultaneous dispensing of two products through the valve, one product from the bag and one product from the space in the recipient around the bag.

Therefore, the bag connects to the end of the valve shaft through the intermediary of a second valve part which is also closed off when the valve shaft is in rest position and is open when the valve shaft is pressed on.

The bag is collapsible under the influence of the pressure surrounding it in the container. This pressure decreases when product from the the container is dispensed.

Such distributor cannot be used for dispensing a single product by means of a pressure medium. It is clear that, as both valve parts are open when the valve shaft is pressed on, the bag cannot be used for containing a pressure medium which would escape very quickly when product is dispensed.

Known distributors for dispensing a single product, for example spray cans, do not comprise a bag inside the recipient. A propellant under pressure is put in the recipient via the valve shaft and the open valve part after the recipient has been filled with a product.

Thus the propellant comes into contact with the product, which is undesirable in a number of cases.

The invention aims to remedy this disadvantage and to provide a distributor whereby the propellant under pressure and the product are separated, but with a relatively simple construction.

This aim is reached according to the invention as the bag is a pressure bag for receiving pressure medium and the valve contains a non-return valve part with which the valve shaft is connected to the inside of the pressure bag and which allows for a flow towards the pressure bag.

When the distributor is filled, this lockable opening connects to the product provided in the recipient.

The pressure bag makes sure that the product in the recipient is put under pressure, which product can be distributed in the usual manner by pressing on the valve shaft.

As the product is situated around the pressure bag, it is possible to first put the product in the recipient and to only then provide the valve with the pressure bag and to put the recipient under pressure by filling the pressure bag. Thus, the product does not necessarily need to be provided through the valve.

5 This makes the distributor particularly suited for viscous products, subsequent foaming and curing products, curing products such as polyurethane foams, sealing compounds and food.

10 Such products may cause problems if they are provided through the valve. The valve can be obstructed as the product cures or it can be soiled by it. Food may contaminate the valve with bacteria.

15 As the charging times are too lengthy and the evacuation is too slow, due to the restricted inflow and outflow of the conventional valves for highly viscous products, including among others polyurethane foams, sealing compounds and food, these valves cannot be used for such products in practice.

The invention avoids these disadvantages.

20 Moreover, in the pressure bag can be provided a gas which is environmentally sound and safe, i.e. non-toxic, in explosive, non-inflammable. Such gases are air, nitrogen and carbon dioxide.

25 If the distributor is used for polyurethane foam, the composition requires less pressure gas, since the evacuation force is supplied by the pressure bag in which the gas remains under pressure.

30 The pressure bag is provided in the recipient while it is still empty. After it has been filled with a pressure medium, namely gaseous gas under pressure, gas-producing liquid or liquid gas, it can be closed off, but preferably the valve contains a non-return valve part with 35 which the valve shaft is connected to the inside of the pressure bag and which allows for a flow to the pressure bag in the recipient.

40 After the pressure bag and the product have been provided in the recipient and this recipient has been closed off with the valve, the pressure bag can be filled with gas under pressure or a gas-producing liquid via this non-return valve part.

45 The valve may have an element of attachment on the lower end of the valve shaft for fixing the pressure bag, whereby the non-return valve part is mounted in this element of attachment.

50 In a particular embodiment, the valve contains a membrane, preferably a rubber sealing plug, with which the pressure bag is closed off in the recipient even before the pressure bag is filled with gas under pressure.

55 In this embodiment, the gas under pressure is provided in the pressure bag by means of a needle which is pricked through the membrane whereby, after the needle has been removed, the sealing of the pressure bag by means of the membrane is automatically repaired.

In order to better explain the characteristics of the invention, the following preferred embodiments of a dis-

tributor for a product under pressure and of a valve designed for it are given as an example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 is a schematic representation of a distributor according to the invention, with a partial cut-out; figure 2 shows a section to a larger scale according to line II-II in figure 1;

figures 3 and 4 show sections analogous to that of figure 2, but during the filling with product and during the filling of the pressure bag with gas under pressure respectively, and drawn to a larger scale; figure 5 shows a section according to line V-V in figure 2;

figures 6 to 11 show a section of the lower part of a valve of a distributor according to the invention, but with reference to different variants of the valve of figures 1 to 4;

figures 12 to 15 show sections according to the lines XIII-XII, XIII-XIII, XIV-XIV and XV-XV respectively in the figures 7 to 11;

figure 16 shows a section similar to that in figures 2, 3, and 4, but with reference to another embodiment of the invention;

figure 17 shows a section according to line XVII-XVII in figure 16;

figures 18 and 19 show parts of a section similar to that in figure 16, but for two variants according to the invention.

The distributor represented in figure 1 mainly contains a recipient 1 for the product to be distributed, usually in the form of a liquid, a powder, a cream, a gel or a mixture of separate ingredients to be inserted; a valve 2 mounted thereupon; and a flexible pressure bag 3 attached to it inside the recipient.

In the example shown, the recipient 1 has the form of a spray can. However, the recipient can also have another shape, and can for example be a flexible bag.

As is represented in greater detail in figures 2 to 4, the valve 2 is mounted in a dish 4 whose edges are rolled up over the edges of an opening 5 in the top of the recipient 1, but naturally, the valve 2 can also be fixed to the recipient in other manners.

The valve 2 contains a springy press-on valve shaft 6 which is connected to the inside of the recipient 1 via a passage 7, consisting of one or several openings provided in its side wall and which can be closed off by means of a valve part 8,9.

A part 8 of a closing device 10 made of elastic material, in particular of rubber, situated inside the recipient 1, which is clamped on the dish 4 and which surrounds the press-on valve shaft 6, forms the seating of the valve part 8,9.

The valve element of this valve part 8,9 consists of a collar 9 standing at the end of the valve shaft 6, under the passage 7, and which connects onto the part 8 in

closing position so as to close off the passage 7.

The part 11 of the closing device 10 situated outside the recipient 1 is situated between the bottom of the dish 4 and a collar 12 on the outer end of the valve shaft 6 and has the function of a spring which counteracts the pressing on the valve shaft 6.

The outer end of the valve shaft 6 is reinforced by means of a case 13 provided around it. At this end can be provided a head with a spray element which is not represented in the drawings so as to atomize the product distributed via the valve shaft 6.

The pressure bag 3 is fixed to the valve shaft 6 by means of an element of attachment 14 which is fixed to the collar 9, for example glued onto it, and in which is provided a non-return valve part 15.

This non-return valve part 15 contains a valve element 16 which is mounted with some clearance in a passage 17 which extends centrally through the element of attachment 14 and which connects the valve shaft 6 to the inside of the pressure bag 3.

A spring 18 which is mounted between this valve element 16 and a narrowing of the passage 17 pushes said valve element 16 against a seating formed by a sealing ring 19 which is countersunk in the collar 9 and which is partly situated in the passage 17.

The element of attachment 14 can have various forms and can have a longitudinal section as represented in figure 5 which is pointed on both ends.

The pressure bag 3 can be fixed to the element of attachment 14 in various manners, such as by means of welding or gluing, or mechanically by clicking, pressing, rolling, stapling, etc.

It can be made either or not of an elastic material and can possibly consist of several layers and can be provided for example with a gas screen.

Its form is adapted to the form of the recipient 1. The pressure bag can be provided with a folding or block bottom.

The use of the distributor is as follows:

In rest position, as represented in figure 2, the valve part 8,9 closes off the passage 7, whereas the valve element 16 of the non-return valve part 15 connects to the sealing ring 16 and closes off the passage 17.

The pressure bag 3 is filled with gas under pressure and the recipient is filled with product around this pressure bag 3.

In order to distribute the product, the valve shaft 6 must be pressed on or pushed aside.

As a result, the part 11 of the closing device 10 is elastically compressed and the valve part 8,9 is opened so that the passage 7 is opened, as represented in figure 3.

Because of the pressure in the pressure bag 3, the non-return valve part 15 remains closed and no gas escapes from the pressure bag 3.

As the product is released from the recipient 1, the pressure bag 3 expands until it fills almost the entire recipient when all of the product has been distributed.

Because the gas remains in the pressure bag 3, the recipient 1 can be filled again with product after it has been emptied, whereby this product will press the pressure bag 3 together.

It is clear that when the valve shaft 6 is pressed on, the product cannot only escape from the recipient 1, but can also enter it. Consequently, the recipient can be filled via the passage 7 or an extra product can be inserted, for example a component which reacts with the component which is already present in the recipient so as to obtain foam for example.

The valve 2 is a double-action valve, which implies that it can be used both to distribute the product as described above and to fill the pressure bag.

By connecting a source of gas under pressure to the valve shaft 6 without pressing on this valve shaft and, if necessary, by keeping the closing device 10 pressed against the elastic closing device 8, the non-return valve part 15 will be opened due to the pressure and the pressure bag 3 can be inflated.

The valve element 16 is hereby pushed away from the sealing ring 19, so that gas can flow along this valve element through the passage 17 as represented in figure 4.

Consequently, the distributor can also be composed as follows:

The recipient 1 can be filled with the product first, after which the valve 2, either or not together with the dish 4, is provided. The pressure bag 3 is folded hereby, rolled up or held together as a small package in any other manner, so that it can be put in the recipient through the opening 5 or through the dish 4.

Afterwards, the pressure bag 3 is filled with gas under pressure which is supplied via the non-return valve part 15.

It is also possible to first provide the valve 2 in the above-described manner and fill the recipient 1 only then with the product via the passage 7.

The variants of the distributor represented in figures 6 to 15 only differ from the embodiment according to figures 2 to 5 in that the valve 2 has another shape, in particular the element of attachment 14 and the non-return valve part 15.

Thus, in the embodiment according to figure 6, the sealing ring 19 is situated at the lower side of the collar 9, whereas the valve element 16 penetrates partly in the valve shaft 6.

In the embodiment according to figures 7 and 12, the element of attachment 14 is made in one piece with the valve shaft 6 and has a section in the shape of an ellipse with wings on the ends. Moreover, the valve element 16 and the spring 18 are replaced by a rubber gudgeon 20 which closes off the passage 17 in rest position, but is pushed away and deformed such under pressure that an opening and thus a passage for gas is created.

The embodiment according to figures 8 and 13 differs from the preceding one in that said element of

attachment 14 has another shape, whose section is round with two diametrically situated wings. The valve element 16 of the non-return valve part 15 consists of a rubber gudgeon 20 and is mounted in the lower end of said element of attachment 14.

In the distributing valve 2 represented in figures 9 and 14, the element of attachment 14 is made at least partially of elastic material, and the valve element 16 of the non-return valve part 15 is made of an elastically deformable part 23 of this element of attachment 14.

In the embodiments according to figures 10, 11 and 15, the valve element of the non-return valve part 15 is also formed of a rubber gudgeon 20, but the element of attachment 14 is as separate from the valve shaft 6.

The pressure bag 3 is clamped between the element of attachment 14 and the collar 9. In figure 10, this element of attachment 14 and the collar 9 are welded or glued together, whereas in figure 11, the element of attachment 14 is clicked on the collar 9 with a protrusion 24.

The pressure bag 3 does not necessarily need to be filled with gas under pressure. It can also be filled with liquid gas or with gas in a solution.

As is already clear from what precedes, the element of attachment 14 can also be as separate from the collar 9. It can even be disconnected from it, whereby a connecting piece is provided between this element of attachment 14 and the collar 9. The pressure bag 3 can be separate as such and can be connected to the connecting piece 14 or directly to the valve shaft 6 or the collar 9 by means of a connecting piece or a tube situated inside the bag. In the latter case, the non-return valve part 15 can be situated in the above-mentioned connecting piece or the above-mentioned tube.

The embodiment represented in figures 16 to 18 differs from the above-described embodiments in that the non-return valve part 15 has a different construction.

The construction of the latter is analogous to the embodiments according to figures 7 to 15, whereby a valve element consists of a gudgeon, but whereby the elastic gudgeon 25 is open before the pressure bag 3 is filled.

As represented in figures 16 and 17, this gudgeon 25 can be wedge-shaped and can be provided all round with a rib 26, with which it rests on or is clamped between four protrusions 27 which extend in the top part of the passage 17 of the element of attachment 14.

The lower part of the passage 17 has a shape in which the gudgeon 25 fits. This part of the passage 17 has a groove 28 itself in which the rib 26 fits.

If the room between the pressure bag 3 and the recipient 1 is filled via the valve 2 with a product or a component such as for example foam gas when said room is already filled with polyurethane or such, this is carried out at a pressure which is sufficiently low for the gudgeon 25 to remain in the above-mentioned position.

If required, the product or the component can be prevented from entering in the pressure bag 3 in this

case by closing off the passage 17 around the gudgeon 25 with a membrane which resists the above-mentioned pressure, but through which the gas with which the pressure bag 3 is filled can break through.

The pressure bag is filled with gas at a pressure which is sufficiently high to break through the possibly provided membrane, but which is nonetheless sufficiently low for the gudgeon 25 to remain in place. This gas flows between the protrusions 27 through the passage 17.

The pressure bag is filled as described above with a filling device which is connected to the valve 2, but which moreover contains a moveable pen 29 which is pushed in the valve shaft 6 after the filling and with which the gudgeon 25 is pushed past the protrusions 27 while being elastically deformed until it is pressed in the lower end of the passage 17 and closes off this passage hermetically and permanently.

The variant represented in figure 19 differs from the preceding embodiment in that the passage 17 and the gudgeon 25 have another shape. They are both cylindrical, but the gudgeon 25 is provided with dial grooves 30 on its lower perimeter, whereas the passage 17 is closed off with a membrane 31 at its top end.

While a product or a component is provided through the valve 2, the gudgeon 25 rests on the membrane 31. As the pressure bag 3 is filled, this membrane 31 is broken. However, the position of the gudgeon 25 does not change, for example because its diameter is slightly larger than the diameter of the passage 17, or because it is still connected to the valve shaft 6 by means of a connecting piece.

The gas can flow through the grooves 30 in the passage 17. When the pressure bag 3 is filled, the gudgeon 25 is forcefully pushed in the passage 17 by means of the pen 29.

According to a variant, the passage 17 can be made such that the gudgeon 25 can take up an intermediate position, which it occupies after the membrane 31 has been broken and in which it is situated while the pressure bag is being filled.

As described above, the gudgeon 25 can be a separate element. According to a variant, it can be made in one piece with the valve shaft and can be either or not broken off from it as the pen 29 is pressed in.

In the embodiment according to figure 19, the valve part is not a gudgeon, but it consists of a collar 32 which is part of the element of attachment 14, which in this case can form a whole with the valve shaft 6. This collar 32 surrounds the top end of the passage 17 and thus extends in the valve shaft 6. It is made of thermoplastic material.

The above-mentioned pen 29 of the filling mechanism is heated and, after the pressure bag 3 has been filled, the collar 32 is weakened by means of this pen 29 and flattened, such that it closes off the opening of the passage 17.

Naturally, the present invention is by no means lim-

ited to the embodiments described above and represented in the accompanying drawings; on the contrary, such a distributor for products under pressure can be made in various forms and dimensions while still remaining within the scope of the invention.

In particular, the valve 2 can be provided with a discharge control and/or a closing device of the valve shaft 6.

## 10 Claims

1. Distributor for a product under pressure, containing a recipient (1) and a valve (2) mounted thereupon with a springy, press-on valve shaft (6) which is connected to the inside of the recipient (1) by means of a passage (7), which can be closed off by means of a valve part (8-9), whereby this passage (7) is closed off by means of the valve part (8-9) when the valve shaft (6) is in rest position, but whereby it is open when the valve shaft (6) is pressed on, and whereby a flexible bag (3) is provided in the recipient (1), the inside of the bag (3) connecting to the end of the valve shaft (6) situated in the recipient (1), whereas the above-mentioned sealable passage (7) via which the valve shaft (6) is connected to the inside of the recipient (1), is situated outside said bag (3), characterized in that the bag (3) is a pressure bag for receiving pressure medium and the valve (2) contains a non-return valve part (15) with which the valve shaft (6) is connected to the inside of the pressure bag (3) and which allows for a flow towards the pressure bag (3).
2. Distributor according to claim 1, characterized in that the valve (2) contains an element of attachment (14) at the lower end of the valve shaft (6), and in that the pressure bag (3) is fixed to this element of attachment (14).
3. Distributor according to claim 2, characterized in that the element of attachment (14) forms one piece with the valve shaft (6).
4. Distributor according to claim 2 or 3, characterized in that said non-return valve part (15) is mounted in this element of attachment (14).
5. Distributor according to any of the preceding claims, characterized in that the non-return valve part (15) contains a valve element (16) which is pressed in a springy manner against a sealing ring (19) which is mounted against or inside a part of the valve shaft (6).
6. Distributor according to any of the preceding claims, characterized in that the non-return valve part (15) contains a valve element (16) which is

- formed of an elastic gudgeon (20) which leaves an opening free under pressure.
7. Distributor according to any of claims 2 and 3, characterized in that the non-return valve part (15) contains a valve element (16) which is formed of an elastic, deformable part (23) of the element of attachment (14). 5
8. Distributor according to any of the preceding claims, characterized in that the valve (2) contains a closing device (10) made of elastic material around the valve shaft (6), whereas the valve part (8,9) contains a part (8) of said closing device (10) situated inside the recipient (1) and a collar (10) standing on the valve shaft (6). 10
9. Distributor according to claim 8, characterized in that the part (11) of the closing device (10) situated outside the recipient (1) elastically counteracts the pressure on the valve shaft (6). 15 20
10. Distributor according to any of the preceding claims, characterized in that the recipient (1) is filled with a product, whereby this product is provided between the pressure bag and the wall of the recipient, and whereby the pressure bag is filled with a pressure medium. 25
11. Distributor according to claim 4, characterized in that the non-return valve part (15) contains a gudgeon (25) which leaves open the passage (17) through the element of attachment (14) in the first position but which, after the pressure bag (3) has been filled, can be pushed in a closed position by a pen (29) in which it closes off the passage (17). 30 35
12. Distributor according to any of claims 2 and 3, characterized in that the element of attachment (14) has a collar (32) of thermoplastic material around one end of the passage (17), which, after the pressure bag (3) has been filled, can be weakened by means of a heated pen (29) and can be flattened so as to close off the passage (17). 40 45
- Patentansprüche**
1. Spender für ein unter Druck stehendes Produkt, der einen Behälter (1) und ein darauf montiertes Ventil (2) mit einem federnd eindrückbaren Ventilschaft (6) umfaßt, welcher mittels eines Durchgangs (7) mit der Innenseite des Behälters (1) in Verbindung steht, der mittels eines Ventileils (8-9) abgeschlossen werden kann, wobei dieser Durchgang (7) mittels des Ventileils (8-9) abgeschlossen ist, wenn der Ventilschaft (6) in Ruhestellung ist, wobei er jedoch offen ist, wenn der Ventilschaft (6) eingedrückt wird, und wobei ein flexibler Sack (3) im Behälter (1) angebracht ist, wobei die Innenseite des Sacks (3) mit dem im Behälter (1) gelegenen Ende des Ventilschafts (6) in Verbindung steht, während der obenerwähnte abdichtbare Durchgang (7), mittels dessen der Ventilschaft (6) mit der Innenseite des Behälters (1) in Verbindung steht, außerhalb des besagten Sacks (3) gelegen ist, dadurch gekennzeichnet, daß der Sack (3) ein Drucksack für das Aufnehmen von Druckmedium ist und das Ventil (2) ein Rückschlagventileteil (15) enthält, mit dem der Ventilschaft (6) mit der Innenseite des Drucksacks (3) in Verbindung steht und das ein Strömen zum Drucksack (3) hin gestattet. 5
2. Spender gemäß Anspruch 1, dadurch gekennzeichnet, daß das Ventil (2) ein Befestigungselement (14) am unteren Ende des Ventilschafts (6) umfaßt, und daß der Drucksack (3) an diesem Befestigungselement (14) befestigt ist. 15
3. Spender gemäß Anspruch 2, dadurch gekennzeichnet, daß das Befestigungselement (14) ein Stück mit dem Ventilschaft (6) bildet. 20
4. Spender gemäß Anspruch 2 oder 3, dadurch gekennzeichnet, daß besagtes Rückschlagventileteil (15) in diesem Befestigungselement (14) montiert ist. 25
5. Spender gemäß einem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß das Rückschlagventileteil (15) ein Ventilelement (16) umfaßt, das federnd gegen einen Dichtungsring (19) gedrückt ist, der gegen ein oder in einem Teil des Ventilschafts (6) montiert ist. 30
6. Spender gemäß einem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß das Rückschlagventileteil (15) ein Ventilelement (16) umfaßt, das aus einem elastischen Schildzapfen (20) gebildet ist, der unter Druck eine Öffnung frei läßt. 35
7. Spender gemäß einem der Ansprüche 2 und 3, dadurch gekennzeichnet, daß das Rückschlagventileteil (15) ein Ventilelement (16) umfaßt, das von einem elastischen, verformbaren Teil (23) des Befestigungselements (14) gebildet wird. 40
8. Spender gemäß einem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß das Ventil (2) um den Ventilschaft (6) herum eine aus elastischem Material gefertigte Schließvorrichtung (10) umfaßt, während das Ventileil (8,9) ein Teil (8) besagter Schlußvorrichtung (10), das innerhalb des Behälters gelegen ist, und einen Kragen (10), der auf dem Ventilschaft (6) steht, umfaßt. 45 50 55

9. Spender gemäß Anspruch 8, dadurch gekennzeichnet, daß der außerhalb des Behälters (1) gelegene Teil (11) der Schließvorrichtung (10) dem Druck auf den Ventilschaft (6) elastisch entgegenwirkt. 5
10. Spender gemäß einem der vorangehenden Ansprüche, dadurch gekennzeichnet, daß der Behälter (1) mit einem Produkt gefüllt ist, wobei dieses Produkt zwischen dem Drucksack und der Wand des Behälters angebracht ist, und wobei der Drucksack mit einem Druckmedium gefüllt ist. 10
11. Spender gemäß Anspruch 4, dadurch gekennzeichnet, daß das Rückschlagventileteil (14) einen Schildzapfen (25) umfaßt, der den Durchgang (17) durch das Befestigungselement (14) in der ersten Position offen läßt, der jedoch, nachdem der Drucksack (3) gefüllt wurde, von einem Stift (29) in eine geschlossene Position, in der er den Durchgang (17) abschließt, gedrückt werden kann. 15
12. Spender gemäß einem der Ansprüche 2 und 3, dadurch gekennzeichnet, daß das Befestigungselement (14) einen Kragen (32) aus thermoplastischem Material um ein Ende des Durchgangs (17) aufweist, der, nachdem der Drucksack (3) gefüllt wurde, mittels eines erwärmten Stifts (29) erweitert werden und abgeflacht werden kann, um den Durchgang (17) abzuschließen. 20

#### Revendications

1. Distributeur pour un produit sous pression, contenant un récipient (1) et une soupape (2) montée par-dessus, comprenant une tige élastique (6) à enfoncement par pression qui est reliée à l'intérieur du récipient (1) à l'aide d'un passage (7) qui peut être obturé à l'aide d'un élément de soupape (8-9), par lequel ce passage (7) est obturé à l'aide de l'élément de soupape (8-9) lorsque la tige de soupape (6) se trouve dans sa position de repos, mais par lequel il est ouvert lorsque la tige de soupape (6) est enfoncée par pression, et par lequel un sac flexible (3) est prévu dans le récipient (1), l'intérieur du sac (3) étant relié à l'extrémité de la tige de soupape (6) située dans le récipient (1), tandis que le passage susmentionné (7) apte à être fermé de manière étanche, par lequel la tige de soupape (6) est reliée à l'intérieur du récipient (1), est situé à l'extérieur dudit sac (3), caractérisé en ce que le sac (3) est un sac de pression pour recevoir un milieu de pression et la soupape (2) contient un élément de soupape de non-retour (15) avec lequel la tige de soupape (6) est reliée à l'intérieur du sac de pression (3) et qui permet un écoulement en direction du sac de pression (3). 35
2. Distributeur selon la revendication 1, caractérisé en ce que la soupape (2) contient un élément de fixation (14) à l'extrémité inférieure de la tige de soupape (6) et en ce que le sac de pression (3) est fixé à cet élément de fixation (14). 40
3. Distributeur selon la revendication 2, caractérisé en ce que l'élément de fixation (14) forme une seule pièce avec la tige de soupape (6). 45
4. Distributeur selon la revendication 2 ou 3, caractérisé en ce que ledit élément de soupape de non-retour (15) est monté dans cet élément de fixation (14). 50
5. Distributeur selon l'une quelconque des revendications précédentes, caractérisé en ce que l'élément de soupape de non-retour (15) contient un élément de soupape (16) qui est pressé d'une manière élastique contre un anneau d'étanchéification (19) qui est monté contre ou à l'intérieur d'une partie de la tige de soupape (6). 55
6. Distributeur selon l'une quelconque des revendications précédentes, caractérisé en ce que l'élément de soupape de non-retour (15) contient un élément de soupape (16) qui est réalisé sous forme d'un goujon élastique (20) qui laisse une ouverture libre lorsqu'il est soumis à une pression.
7. Distributeur selon l'une quelconque des revendications 2 et 3, caractérisé en ce que l'élément de soupape de non-retour (15) contient un élément de soupape (16) qui est réalisé sous forme d'une partie élastique déformable (23) de l'élément de fixation (14).
8. Distributeur selon l'une quelconque des revendications précédentes, caractérisé en ce que la soupape (2) contient un dispositif de fermeture (10) réalisé en une matière élastique autour de la tige de soupape (6), tandis que l'élément de soupape (8, 9) contient une partie (8) dudit dispositif de fermeture (10) située à l'intérieur du récipient (1) et une bague (10) montée sur la tige de soupape (6).
9. Distributeur selon la revendication 8, caractérisé en ce que la partie (11) du dispositif de fermeture (10), située à l'extérieur du récipient (1), contrecarre de manière élastique la pression s'exerçant sur l'élément de soupape (6).
10. Distributeur selon l'une quelconque des revendications précédentes, caractérisé en ce que le récipient (1) est rempli avec un produit, ce produit étant alimenté entre le sac de pression et la paroi du récipient, le sac de pression étant rempli avec un milieu de pression. 55

11. Distributeur selon la revendication 4, caractérisé en ce que l'élément de soupape de non-retour (15) contient un goujon (25) qui laisse ouvert le passage (17) à travers l'élément de fixation (14) dans la première position, mais qui, une fois que le sac de pression (3) a été rempli, peut être poussé dans une position fermée par une plume (29), en obturant de cette manière le passage (17).

12. Distributeur selon l'une quelconque des revendications 2 et 3, caractérisé en ce que l'élément de fixation (14) comporte une bague (32) réalisée en une matière thermoplastique autour d'une extrémité du passage (17) qui, après le remplissage du sac de pression (3), peut être affaiblie à l'aide d'une plume chauffée (29) et peut être aplatie de façon à obturer le passage (17).

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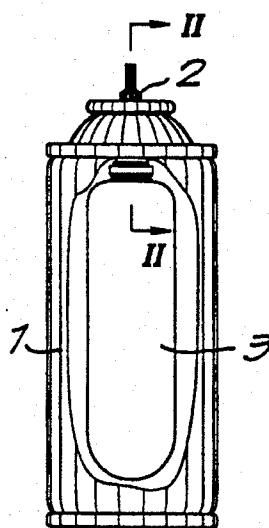


Fig. 1

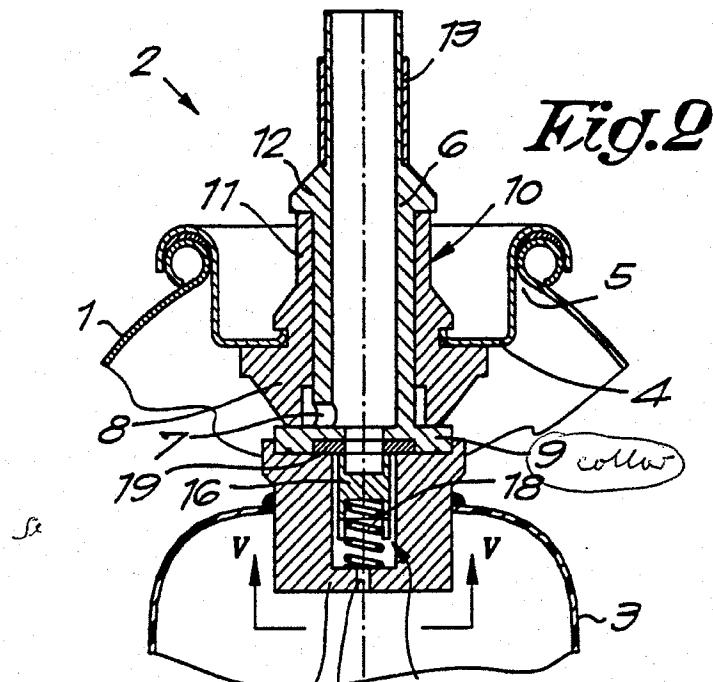


Fig. 2

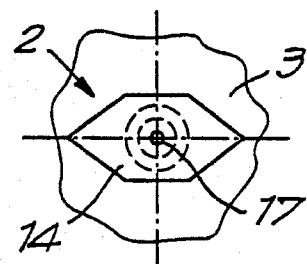


Fig. 5

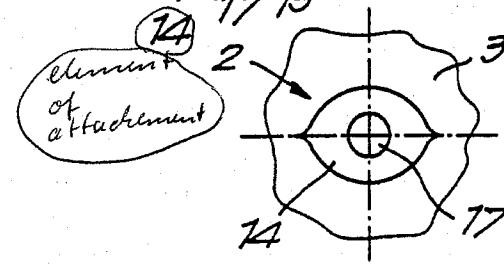


Fig. 12

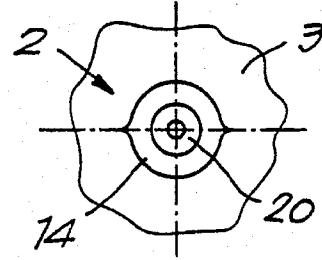


Fig. 13

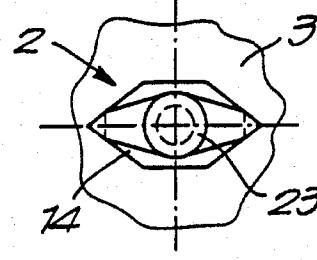


Fig. 14

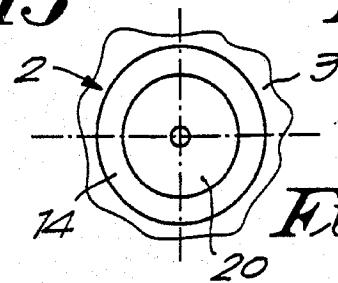
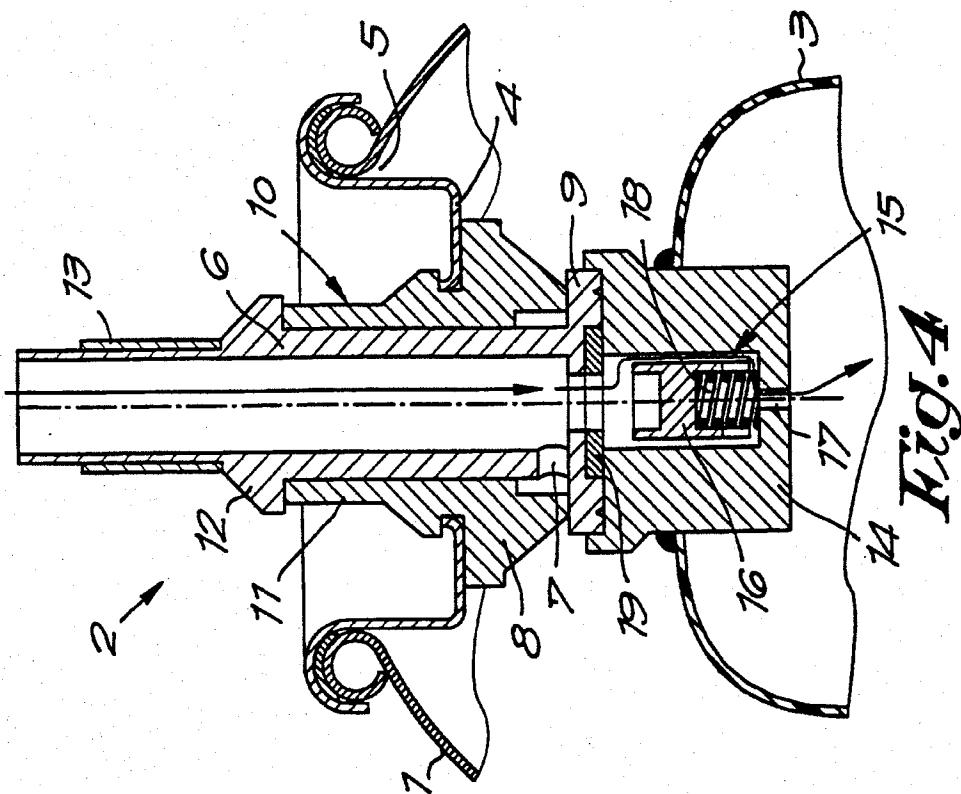
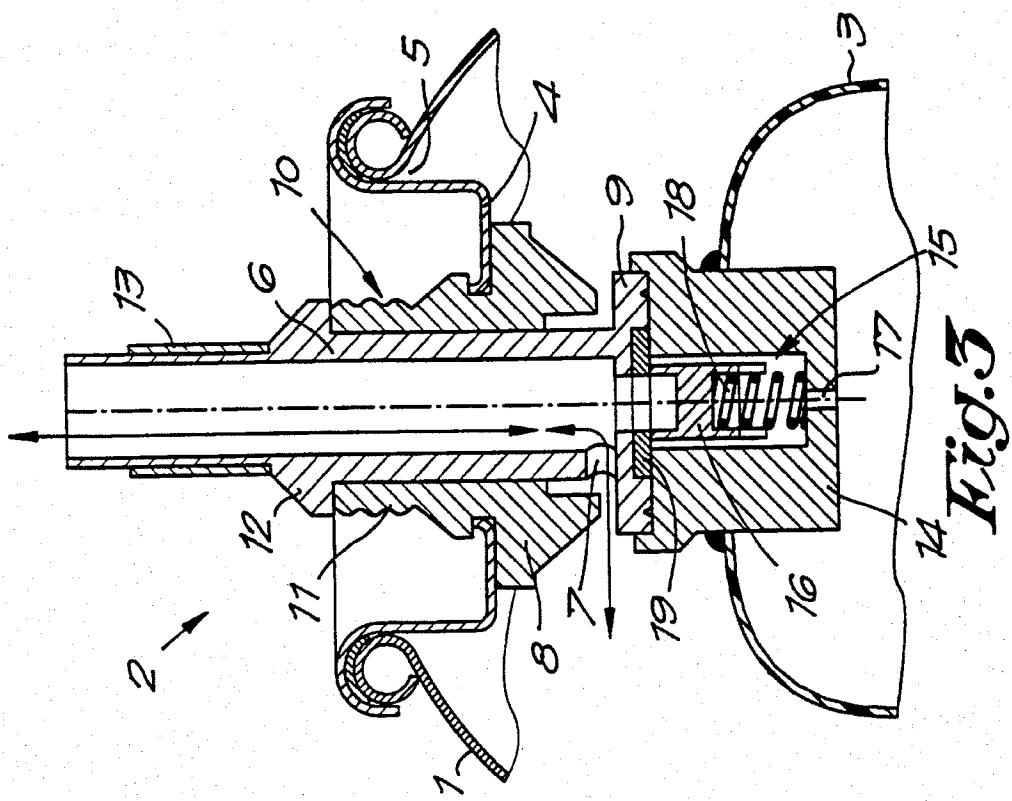


Fig. 15



Befüllen  
des Brumels



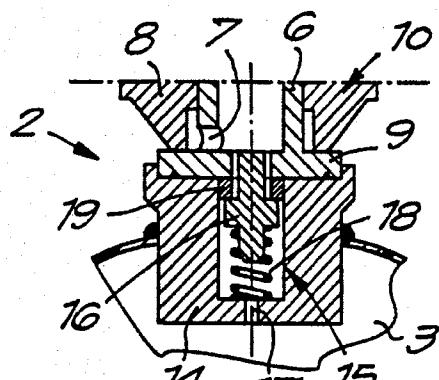


Fig.6

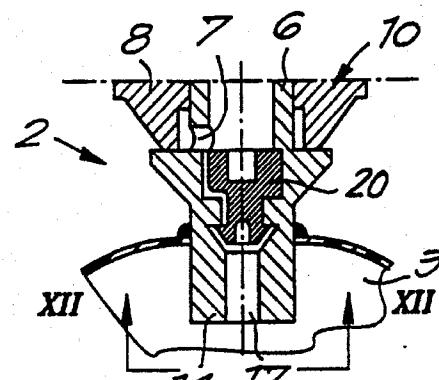


Fig.7

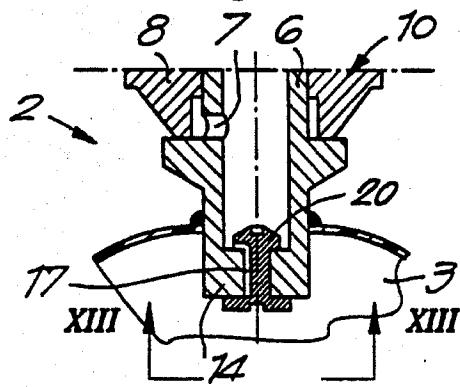


Fig.8

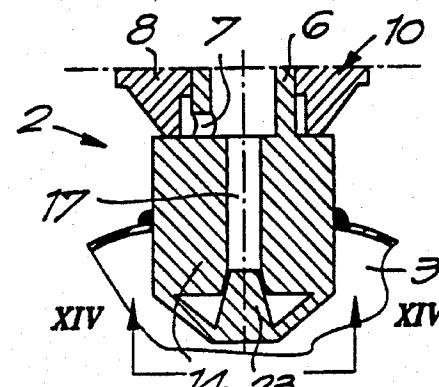


Fig.9

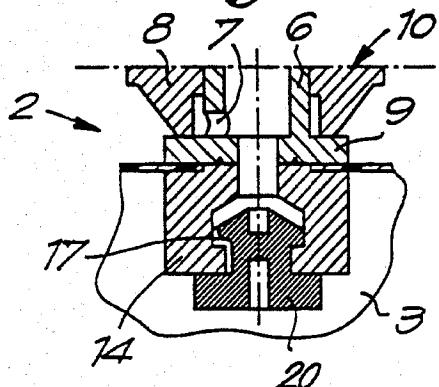


Fig.10

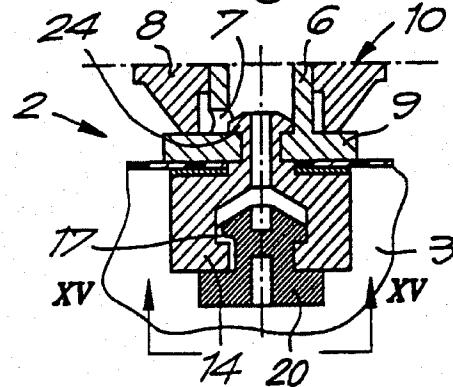


Fig.11

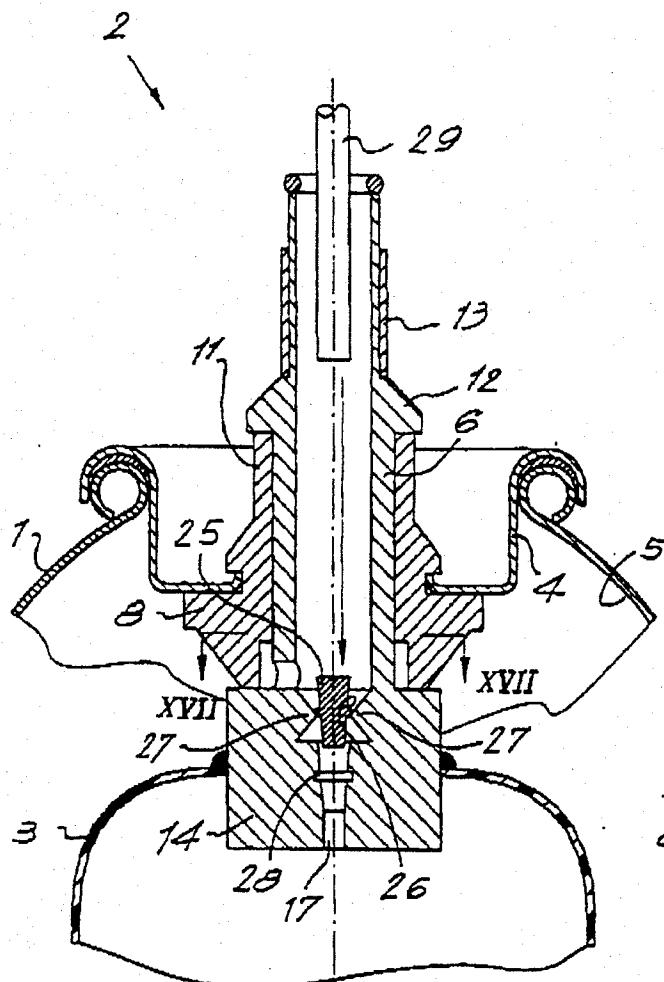


Fig. 16

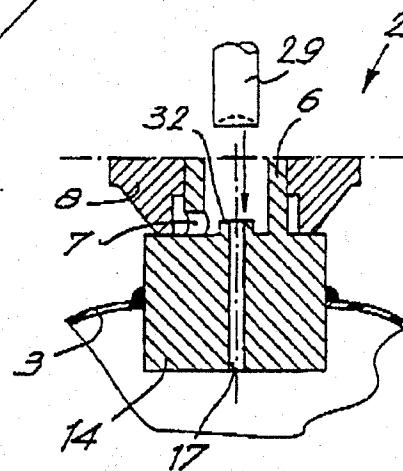


Fig. 18

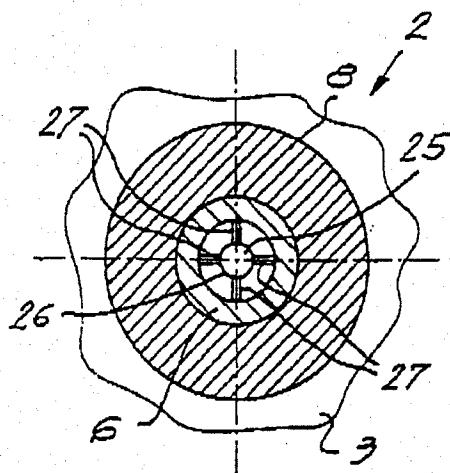


Fig. 17

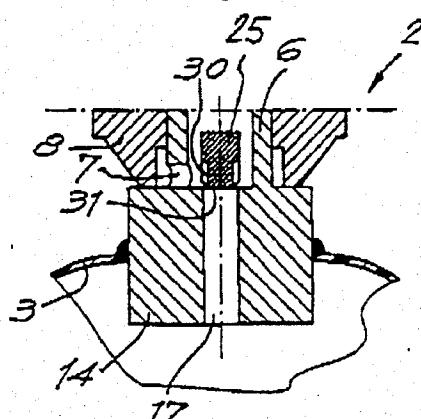


Fig. 19